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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,147	12/01/2006	Hiroshi Ishibuchi	2006_1371A	5735

513 7590 10/12/2010  
WENDEROTH, LIND & PONACK, L.L.P.  
1030 15th Street, N.W.,  
Suite 400 East  
Washington, DC 20005-1503

EXAMINER
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CUMBESS, YOLANDA R

ART UNIT	PAPER NUMBER
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3651

NOTIFICATION DATE	DELIVERY MODE
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10/12/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,147	<b>Applicant(s)</b> ISHIBUCHI ET AL.	
	<b>Examiner</b> YOLANDA CUMBESS	<b>Art Unit</b> 3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/1/2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37-41, 49 and 50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-41 and 49-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's arguments filed on Page 10, Para. 2, have been fully considered but they are not persuasive. Applicant asserts that Kitamura does not disclose the surface of the heat resistance belt having a hardness corresponding to metal, such as steel, and an uneven surface shape. Applicant further argues that providing the surface with a hardness corresponding to steel allows the belt surface pressure to increase when the corrugated core paper are pressed and bonded together, therefore enhancing the bonding strength so that board production may occur at higher speeds.

Providing the belt surface (3) having a fabric structure of high-strength metal fibers formed of steel inherently provides the surface layer (3) having a hardness corresponding to steel.

First, Kitamura discloses the surface layer (3)(Fig. 1) comprising a fluororesin film (Para. 0026, "fluororesin, PFA from textile fabrics, FEP") and having a fabric structure comprised of high-strength ferrous metal wires (metal fiber threads formed of stainless steel, and "shape-memory metal alloys", Para. 0018) that are arranged or twisted together, such that metal fibers or "wires" are woven together in a monofilament or multifilament fashion and cross diagonally. (Para. 0018-0020).

Kitamura also discloses that the belt surface structure (3) comprising the metal wires has a density of 500-3000 deniers (Para. 0023) which suggests a very tough fiber thread having a high-tensile strength. Additionally, the use of steel fiber threads is known for its uses in corrugation processing due to its resilient nature (See NPL China-Polypropylene-Curved-Fiber.html).

Moreover, Kitamura discloses that the fabric structure of the belt surface (3), which is impregnated with the fluoro-resin film, comprises tough metal fiber threads that are heat resistant and abrasion resistance in order to enhance the durability of the belt surface in order to avoid cutting, breakage, and wrinkles while undergoing the high-pressure welding, corrugated processing (Abstract; Para. 0022; 0034).

Finally, the surface (3) of the belt has an uneven shape because of the cross-diagonal arrangement of the monofilament, multi-filament woven metal threads (Para. 0032)(Fig. 1).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitamura et al (JP Patent Publication No. 11-105171). Relative to claims 37-41, and 49-50, Kitamura discloses a heat resistant laminated conveyor belt (Fig. 1) comprising: a belt core layer made (1)(Fig. 1) by a heat resistant non-metallic fiber substrate (Para. 0014, 0018; 0024) which has been impregnated with a fluoro-resin dispersion and then dried and sintered, an intermediate layer (2)(Fig. 1) laminated on said belt core layer (1) via an adhesive layer (intermediate layer comprises an adhesive layer) and comprising a fluoro-resin film (Para. 0014; 0021; 0024 “film layer of fluoro-resin”), said intermediate

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layer (2) comprises a heat resistant non-metallic fiber substrate being impregnated with a fluoro-resin dispersion and then dried and sintered (Para. 0020-0021); a surface layer (3)(Fig. 1) laminated on said intermediate layer (2) via an adhesive layer comprising a fluoro-resin film (Para. 0024); said surface layer (3) has a fabric structure using an element wire or wires (0023; 0018) comprising a ferrous metal ("metal fibers" made of stainless steel or shape memory alloy), or has a structure in which said element wire or wires are arranged together (fibers are woven together, Para. 0016; 0018-0019); and the surface of the surface layer (3) having a hardness corresponding to steel and having an uneven shape (Fig. 1)(see multi-filament, mono-filament woven fabric structure); said ferrous metal is a steel selected from iron steel, carbon steel, or stainless steel ("stainless steel", Para. 0018); said heat resistant non-metallic fiber substrate is selected from at least one of a glass fiber, carbon fiber, aramide fiber, aromatic allylate fiber and polyparaphenylenebenzobisoxazole (PBO) fiber (Para. 0018); said adhesive layer is a resin film layer of a polytetrafluoroethylene (PTFE) resin, denatured poly tetrafluoroethylene (denatured PTFE) resin, tetrafluoroethylene hexafluoropropylene copolymer (FEP) resin, tetrafluoroethylene perfluoroalkoxyethylene copolymer (PFA) resin, ethylene tetrafluoroethylene copolymer (ETFE) resin, or ethylenechlorotrifluoroethylene copolymer (ECTFE) resin (0021); and one or both of said intermediate layer (2) and belt core layer (1) on the inner side of said surface layer (3) are a plurality of layers (Fig. 1)(Para. 0028).

Relative to claims 49 and 50, the disclosure of Kitamura includes the method of manufacturing a heat resistant laminated conveyor belt comprising: a first step of

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forming a belt core layer (1) by impregnating a heat resistant non-metallic fiber with a fluoro-resin dispersion and then dried and sintered (Para. 0021; 0024); a second step of forming an intermediate layer (2) by impregnating a heat resistant non-metallic fiber with a fluoro-resin dispersion, then drying, sintering, and then lapping it over said belt core layer via an adhesive layer comprising a fluoro-resin film, and a third step of lapping a surface layer (3) over said intermediate layer (2) via an adhesive layer comprising a fluoro-resin film (0018-0023), said surface layer (3) having a fabric structure including an element wire or wires made of a ferrous metal or having a structure in which said element wire or wires are arranged together (Para. 0018-0020), bonding said surface layer (3) together with said belt core layer (1) and intermediate layer (2) by a heat sealing lamination process (Para. 0023-0025), the surface of the surface layer (3) having a hardness corresponding to steel and having an uneven shape; and one or both of said intermediate layer (2) and belt core layer (1) on the inner side of said surface layer (3) are a plurality of layers lapped one on another via an adhesive layer or layers (Fig. 3) and then subjecting said layers (1, 2) to the heat sealing lamination process (Para. 0025-0028).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOLANDA CUMBESS whose telephone number is (571)270-5527. The examiner can normally be reached on MON-THUR 9AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GENE CRAWFORD can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gene Crawford/  
Supervisory Patent Examiner, Art  
Unit 3651

/YOLANDA CUMBESS/  
Examiner, Art Unit 3651